

CLAIMS

1. An activation energy ray-sensitive resin composition, characterized in that said composition comprises:

5 a dispersion comprising an aqueous solution of a water-soluble resin, and an acid former generating an acid by the action of activation energy rays and being insoluble or sparingly soluble in water, said acid former being dispersed in said aqueous solution in the form of
10 fine powder, and

an acid-reactive insolubilizing agent dissolved or dispersed in said dispersion and insolubilizing said water-soluble resin by the action of said acid.

15 2. An activation energy ray-sensitive resin composition, characterized in that said composition comprises:

a dispersion comprising an aqueous solution of a water-soluble resin, an acid former generating an acid by the action of activation energy rays and being insoluble
20 or sparingly soluble in water, and a sensitizer sensitizing the acid forming reaction, said acid former and sensitizer being dispersed in said aqueous solution in the form of fine powder, and

25 an acid-reactive insolubilizing agent dissolved or dispersed in said dispersion and insolubilizing said water-soluble resin by the action of said acid.

3. An activation energy ray-sensitive resin composition as recited in claim 1 or 2, characterized in that a
30 compound having at least one radically polymerizable unsaturated bond is dissolved or dispersed.

4. An activation energy ray-sensitive resin composition as recited in any one of claims 1 through 3, characterized
35 in that said acid-reactive insolubilizing agent is an N-

methyloated or N-alkoxymethylated nitrogen-containing compound, a hydroxymethylated phenol derivative or a resol resin.

5 5. An activation energy ray-sensitive resin composition as recited in any one of claims 1 through 3, characterized in that said acid-reactive insolubilizing agent is a compound having at least one epoxy group, oxetane group, vinyl-
10 oxy group, isopropenyloxy group or orthoester group.

15 6. An activation energy ray-sensitive resin composition as recited in any one of claims 1 through 3, characterized in that said acid-reactive insolubilizing agent has at least one formyl group.

20 7. An activation energy ray-sensitive resin composition as recited in any one of claims 1 through 3, characterized in that said acid-reactive insolubilizing agent has at least one acetal group.

25 8. An activation energy ray-sensitive resin composition as recited in any one of claims 1 through 7, characterized in that an aqueous resin emulsion is mixed.

30 9. An activation energy ray-sensitive resin composition comprising the activation energy ray-sensitive resin composition as recited in any one of claims 1 through 8, and a water-soluble, photo-insolubilizable resin.

35 10. An activation energy ray-sensitive resin composition as recited in any one of claims 1 through 9, characterized in that said water-soluble, photo-insolubilizable resin is a photo-crosslinkable polyvinyl alcohol into which a styrylpyridinium group represented by the following general formula (1) has been introduced:

$$\text{polymer cation} \cdot \text{X}^- \quad (1)$$

11. An activation energy ray-sensitive resin composition as recited in any one of claims 1 through 9, characterized in that said water-soluble, photo-insolubilizable resin comprises polyvinyl alcohol, casein or gelatin, and a water-soluble diazo resin or a dichromate.

13. An activation energy ray-sensitive resin film for
20 screen printing process, characterized in that an
activation energy ray-sensitive resin composition
according to any one of claims 1 through 11 is formed into
a film.

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